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George Born, Patrick Weidman

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19. ABSTRACT (Continue on reverse if necessary and identify by block number)

The objective of the subject contract was to develop methodology for effectively using satellite altimetry for oceanographic applications. Another task was to examine techniques for measuring and monitoring rotating fluid phenomena. In addition, a task was added later by NORDA to develop ice motion techniques from sequential AVHRR imagery.

The ice motion work involved the use of filtered cross correlation between relatively cloud free sequential AVHRR images to examine temporal changes in the patterns of sea ice motion.

A major portion of this work was the interpolation of GEOSAT ERM altimetry time series for the purpose of wave detection. Considerable work has been done in the tropical Pacific on kelvin wave detection techniques. This work has been presented at several conferences (see list of presentations), but has not yet been fully documented in the open literature. This work is still in progress and it is our intention to publish results during the next year.

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List of presentations

- 1) Ocean Sciences Meeting; 1/18 to 1/22, 1988; New Orleans, LA; "Simulated Detection of Free-Surface Ocean Features Using GEOSAT Altimetry Sampling", Patrick Weidman, George Born
- 2) Pacific Congress on Marine Science and Technology; Honolulu, Hawaii; 5-16 to 5-20, 1988; "Feature Detection in the Tropical Pacific Using GEOSAT"; George Born, Patrick Weidman, Basel Dayyani
- 3) American Geophysical Union Meeting; 12-5 to 12-9, 1988; "Arctic Ice Motion from Sequential AVHRR Imagery"; J. Hawkins, William Emery, Charles Fowler

Publications

- 1) Patrick Weidman; March or April, 1989; Measurement Techniques in Laboratory Rotating Flows; "Lecture Notes in Engineering: Frontiers in Fluid Mechanics"; Volume 22; Edited by M. Gad-el-Hak; Springer Verlag
- 2) Patrick Weidman, R. Zakhem; 1988; Cylindrical Solitary Waves; "Journal of Fluid Mechanics"; Volume 191, pp. 557-573
- 3) George Born, Patrick Weidman, Basel Dayyani; May, 1988; Feature Detection in the Tropical Pacific Using GEOSAT; "Proceedings of the Pacific Congress on Marine Science and Technology"; pp. OST2/5 to OST2/7



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